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Advisory Committee
on Advanced Television Service

Apr 29 '94

TECHNICAL SUBGROUP MEETING

FEDERAL COMM. COMMISSION
OFFICE OF THE
SECRETARY

February 24, 1994 ---- 10:00 AM
Held at the Headquarters of the
International Brotherhood of Electrical Workers

Attendance

Co-Chairs: Irwin Dorros (Bellcore), Joseph Flaherty (CBS)

Other Members: Lynn Claudy (NAB), Birney Dayton (Nvision),
Alex Felker (Time Warner Telecommunications), Michael Haley
(IBM), John Henderson (Hitachi America), Robert Hopkins
(ATSC), Renville McMann (Consultant), Mark Richer (PBS),
Craig Tanner (CableLabs), Victor Tawil (MSTV), George
Vradenburg (Fox)

Ex-Officio Participants: Robert Bromery (FCC), Peter Fannon
(ATTC), James Gaspar (Panasonic), Reggie Gilliam (IBEW),
George Hanover (EIA), Paul Hearty (ATEL), Brian James
(CableLabs), Robert Niles (Capital Cities/ABC), Richard
Prodan (CableLabs), Charles Rhodes (ATTC), Peter Smith
(NBC), Lawrence Thorpe (Sony)

Observers: Carol Darling (ABSOC), Kenneth Davies (SMPTE),
Keiichi Kubota (NHK), Howard Miller (PBS), Victor Rojas
(Televisa), George Waters (EBU)

Secretary: Paul Misener (Wiley, Rein & Fielding)

Summary of Meeting Decisions and Discussions

Introduction

Advisory Committee Chairman Richard Wiley described his recent letter to the Committee, and recommended that the Technical Subgroup continue on its present course for approving the Grand Alliance system design, defining system specifications, and testing the complete system.

Transmission

Transmission Expert Group Chairman John Henderson presented the results of the comparative testing -- the so-called "bake-off" --

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between the QAM and VSB modems. Based on these results, his expert group recommended adoption of 8 VSB for broadcast and 16 VSB for cable.

After Peter Fannon described the test process, Mr. Henderson described in detail the test categories - Coverage, Rebroadcast, Design Issues. (He noted that field testing will begin in a few weeks in Charlotte, North Carolina.) Mr. Henderson said 8 VSB and 32 QAM often performed very closely. Where differences were significant, 8 VSB about always out-performed 32 QAM. A notable exception was airplane flutter.

Brian James described the cable portion of the tests. In the cable analysis, weights were assigned for different tests. The VSB modem got more points than did the QAM modem.

Jules Cohen spoke about the PS/WP3 analysis of the test data.

Mr. Henderson spoke about potential improvements to VSB system, including recommendation to use General Instrument's adaptive equalization algorithm.

Michael Haley asked if there will be interference problems with new devices like PDAs.

Other than two abstentions, the voting members of the Technical Subgroup unanimously voted in support of the Expert Group's recommendation that the modem for the Grand Alliance prototype system be 8 VSB for broadcast and 16 VSB for cable.

Craig Tanner said he abstained from voting because CableLabs could accept either type of modem.

Chairman Flaherty noted that the Subgroup now has approved all five parts of the Grand Alliance system. Mr. Henderson expressed his congratulations to the proponents of both VSB and QAM, but especially to Zenith for their work with the VSB modems.

Meeting with DVB Group

Chairman Flaherty briefly discussed Advisory Committee Chairman Wiley's meeting with Europe's DVB group of Europe.

George Waters said that satellite specifications are complete and have been forwarded to the EBU and ETSI for standardization. Specifications for cable should be complete within a week or so.

System Specifications

Scanning Format/Compression Expert Group Chairman Robert Hopkins presented all the Expert Groups' work on developing system specifications. Terry Smith of the Grand Alliance presented general specifications.

The Technical Subgroup approved the general procedure by which the specifications, both system and target, will be reviewed and completed by the Grand Alliance and Expert Groups, to be ready for final approval at the next Technical Subgroup meeting.

Master Calendar

The next meeting of the Technical Subgroup was scheduled for April 13, 1994. [Secretary's note: The meeting later was rescheduled to April 19, 1994.]

An updated Master Calendar was approved by the Technical Subgroup.

NII Liaison

Chairman Flaherty proposed that Robert Hopkins chair a liaison group with NII activities. This group would be a parallel group with the same sort of group formed within the ATSC. Chairman Flaherty asked for participation from all of the Expert Group chairs, Grand Alliance representatives, and Chairman Dorros.

This plan for an NII Liaison Group was approved by the Technical Subgroup.

George Waters suggested European and Japanese participation in this liaison group, and Carol Darling said similar efforts are underway in Canada. Chairman Flaherty asked interested parties to contact Dr. Hopkins.

1080 Line Test Material

Robert Hopkins said the Scanning Format/Compression Expert Group recommends "mirroring" the top 45 lines of 1035 material to achieve 1080 lines. Carlo Basile noted that BTS is developing a 1080 CCD camera for demonstration at the NAB Convention.

Chairman Flaherty said this issue -- including who will build such a "mirroring" device -- will be discussed further at the next meeting of the Technical Subgroup.

COFDM Study

Transmission Expert Group Chairman John Henderson discussed the COFDM trip report and offered some recommendations.

The Technical Subgroup approved the COFDM trip report.

Chairman Flaherty noted that we want to know more about the Japanese and Canadian efforts in this area. He also noted that, in the trip report, the Expert Group offered to design a COFDM system. Although the offer was appreciated, he reminded the Subgroup that this was not the Advisory Committee's role.

Wayne Luplow said it was highly unlikely that the Grand Alliance would spend any money on the development of COFDM.

In response to questions about the Grand Alliance system's so-called "dynamic scalability," Robert Rast said that it is implementable: in the transport layer it is easy, but in the compression layer it is a bit more tricky. There would be a significant schedule impact if dynamic scalability were to be implemented in the prototype. A more precise estimate of this impact will be available at the next Technical Subgroup meeting.

Other Business

Chairman Flaherty noted that the Technical Subgroup now has approved a complete system asked the Expert Group on Economics to study, based on the approved system, the cost of receivers. He also said the additional costs of dynamic scalability and COFDM should be studied.

Transport Expert Group Chairman Craig Tanner reminded the Subgroup that he and a few others are drafting a document in response to various interoperability issues that have been raised, and asked that comments be given to him within two weeks.

One observer in the audience suggested that the audio system could have eight, not five channels.

Adjourn (4:30 PM)